Early pandemic forecast for Vietnam M: multi-output M: multi-output M: repeated single-output (deaths + mobility) (deaths) (deaths) per million of population Prediction Prediction Prediction 1.5 1.5 Truth Truth Truth 1.0 1.0 0.5 0.5 0.0 0.0 8 10 12 10 12 10 12 Days since April 22 2020 Days since April 22 2020 Days since April 22 2020 B: LSTM (deaths) B: Bi-LSTM (deaths) B: GRU (deaths + mobility) per million of population Prediction Prediction Prediction 1.5 1.5 1.5 Truth Truth Truth Death incidence .0 1.0 1.0 0.5 0.5 0.5 0.0 0.012 10 12 10 8 8 6 4 8 10 12 6 6 Days since April 22 2020 Days since April 22 2020 Days since April 22 2020 B: ARIMA wavelet **B**: Persistence Prediction Prediction per million of population 1.5 1.5 Truth Truth Death incidence 1.0 1.0 0.5 0.5 0.0 10 12 10 12 2 8 0 4 Days since April 22 2020 Days since April 22 2020